

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings of claims in the application:

Listing of Claims:

1. (Currently Amended) A method for classifying defects comprising:
imaging an inspected object by illuminating and scanning an electron beam and
detecting with a pair of detectors disposed at angles from said object and detectors disposed
above said object;
extracting ~~an image~~ of a defect candidate from ~~an image~~ images obtained by
each of said detectors by said imaging step and calculating defect information of said defect
candidate from each of the images obtained by said detectors;
classifying said extracted defect candidate image into a first category by using
said calculated defect information;
classifying said extracted defect candidate image into a second category; and
displaying on a screen said extracted defect candidate image together with first
and second classification information, said first classification information relating to said first
category, said second classification information relating to said second category,
wherein said step of classifying said extracted defect candidate image into said
second category is performed by comparing a circuit pattern area and a defect area, said circuit
pattern area being obtained from a reference image and said defect area being obtained from said
imaging step.
2. (Canceled)
3. (Original) The method for classifying defects as described in claim 1
wherein said first category relates to defect criticality.
4. (Original) The method for classifying defects as described in claim 3
wherein said second category relates to defect type.

5. (Original) The method for classifying defects as described in claim 4 wherein said defect type includes one or more of the following: particle defects, flaw defects, circuit pattern short defects, and circuit pattern open defects.

6. (Currently Amended) A method for classifying defects comprising:
imaging an ~~inspected~~ object by illuminating and scanning an electron beam and detecting with a plurality of first detectors disposed at angles from said object and a plurality of second detectors disposed above said object to obtain an image;

extracting an ~~image~~ images of a defect candidate from said ~~image~~ images obtained by said ~~imaging step~~ from said first and second detectors and calculating defect information of said defect candidate using said images obtained by said first and second detectors;

classifying said extracted defect candidate image into at least one defect type by using said calculated defect candidate;

evaluating criticality of defect of said defect candidate image that has been classified into said at least one defect type; and

displaying on a screen said extracted defect candidate image together with first and second information, said first information relating to said classification of defect type, and said second information relating to said evaluation of said criticality of defect,

wherein said evaluating step is performed by comparing a circuit pattern area and a defect area, said circuit pattern area being obtained from a reference image, said defect area being derived from said imaging step, said extracted defect candidate image being extracted from said defect area.

7. (Currently Amended) The method for classifying defects as described in claim 6 wherein said imaging of said ~~inspected~~ object is performed by illuminating and scanning an electron beam focused on said ~~inspected~~ object and detecting, in synchronization with said scanning, secondary electrons generated from said ~~inspected~~ object by said illumination.

8. (Original) The method for classifying defects as described in claim 6 wherein said defect types for classification include one or more of the following: particle defects, flaw defects, circuit pattern short defects, and circuit pattern open defects.

9. (Currently Amended) A method for classifying defects comprising:
imaging an inspected object by illuminating and scanning an electron beam and detecting with a plurality of first detectors disposed at angles from said object and a plurality of second detectors disposed above said object;

extracting first images of defect candidates from second images obtained by said first and second detectors and calculating defect information of said defect candidate using said second images obtained by said first and second detectors~~said inspected object~~;

classifying said extracted defect candidate images into a first category by using said calculated defect candidate;

classifying said extracted defect candidate images into a second category, said second category relating to a predicted yield from said inspected object; and

displaying on a single screen a distribution on said inspected object of said defect candidates classified in said first category together with first and second classification information, said first classification information relating to said first category, said second information relating to said second category,

wherein said step of classifying said extracted defect candidate image into said second category is performed by comparing a circuit pattern area and a defect area, said circuit pattern area being obtained from a reference image and corresponding to said defect area on said reference image, said defect area being derived from said imaging step, said extracted defect candidate image being extracted from said defect area.

10. (Currently Amended) The method for classifying defects as described in claim 9 wherein said imaging of said inspected object is performed by illuminating and scanning an electron beam focused on said inspected object and detecting, in synchronization with said scanning, secondary electrons generated from said inspected object by said illumination.

11. (Original) The method for classifying defects as described in claim 9 wherein an image of said defect candidate is also displayed on said screen.

Claims 12-22. (Canceled)

23. (Currently Amended) The method for classifying defects as described in ~~claim 2~~ claim 1 further comprising forming an image based on said secondary electrons generated from said inspected object by said illumination.

24. (Previously Presented) The method for classifying defects as described in claim 7 further comprising forming an image based on said secondary electrons generated from said inspected object by said illumination.

25. (Previously Presented) The method for classifying defects as described in claim 10 further comprising forming an image based on said secondary electrons generated from said inspected object by said illumination.

26. (Previously Presented) The method for classifying defects as described in claim 9 wherein said first category relates to defect type.

27. (Previously Presented) The method for classifying defects as described in claim 26 wherein said defect type includes particle defects, flaw defects, circuit pattern defects, and voltage contrast defects.

28. (Previously Presented) The method for classifying defects as described in claim 9 wherein said second category relates to defect criticality.

Claim 29. (Canceled)

30. (Currently Amended) A method for classifying defects on a semiconductor wafer, the method comprising:

imaging the wafer to obtain ~~images~~ an image of a portion of the wafer, the portion of the wafer including a defect candidate, said imaging involving illuminating and scanning an electron beam and detecting with a plurality of first detectors disposed at angles from said wafer and a plurality of second detectors disposed above said first detectors;

defining a defect area by comparing the ~~image~~ images of the portion of the wafer and a at least first reference image;

obtaining a circuit pattern area from a second reference image;

classifying the defect candidate into a first category using ~~an said images~~ image of the defect candidate obtained from the imaging step; and

classifying the defect candidate into either a killer defect or non-killer defect; and

displaying on a screen the image of the defect candidate together with first and second information, the first information relating to the first category, the second information relating to the killer/non-killer defect category.

31. (Previously Presented) The method of claim 30, wherein the step of the classifying the defect candidate into either the killer defect or non-killer defect includes comparing the defect area and the circuit pattern area, the first and second reference images being the same.

32. (Previously Presented) The method of claim 30, wherein the step of the classifying the defect candidate into either the killer defect or non-killer defect includes evaluating an overlap between the defect area and the circuit pattern area.